

REMARKS

Claims 1-23 constitute the pending claims in the present application. Claims 9-14 are withdrawn from consideration, claims 4, 15-17 and 19-21 have been canceled, without prejudice, and claims 1, 5, 6, 8 and 22-23 have been amended. The claim amendments are fully supported by the specification. No new matter has been introduced. In particular, support for the amendment to claims 1 and 23 can be found, for example, in claims 4 and 15 as originally pending and support for the amendment to claim 22 can be found, for example, at page 10, line 26 to page 11, line 2.

Additionally, the first paragraph of the specification has been amended to update the status of the parent application and to insert the filing date of one of the priority documents. The specification has also been amended to correct the European Collection of Cell Cultures (ECACC) Accession Number for monoclonal AZN-1. The ECACC deposit receipts for monoclonals AZN-1 and AZN-2 are attached hereto as Exhibits 1 and 2, respectively.

Amendment or cancellation of claims should in no way be construed as an acquiescence to any of the Examiner's rejections. The amendments to the claims are being made solely to expedite prosecution of the present application and do not, and are not intended to, narrow the claims in anyway. Applicants reserve the option to further prosecute the same or similar claims in the instant or in a subsequent patent application.

Applicants respectfully request reconsideration in view of the following remarks. Issues raised by the Examiner will be addressed below in the order they appear in the prior Office Action.

Specification

The specification was objected to for allegedly being incongruent and misleading for stating that the amino acid sequence set forth in SEQ ID NO: 2 was both 98% and 100% identical to a sequence identified in Curtis et al (1992). Applicants have amended the specification as requested by the Examiner to reflect that SEQ ID NO: 2 is identical to the sequence set forth in Curtis et al. Accordingly, reconsideration and withdrawal of the objections to the specification are respectfully requested.

Claim Rejections Under 35 U.S.C. §112, First Paragraph - Enablement

Claims 1-8 and 15-23 were rejected under 35 U.S.C. §112, first paragraph, for purposes of enablement. The Examiner states that “the specification, while being enabling for at most and at best, a method of increasing some immune response by administering a compound that binds to DC-SIGN, does not reasonably provide enablement for this method to include all C-type lectins found on the surface of all dendritic cell.” The rejection is respectfully traversed.

Applicants respectfully disagree with the rejection. However, in an effort to expedite prosecution of the application, the claims have been amended and the amendments are believed to obviate the rejection. In particular, claim 1 has been amended to refer to a compound-antigen complex that binds to SEQ ID NO:2 (DC-SIGN). Claims 2-3, 5-9, 18 and 22 are dependent on claim 1 and claims 17, 19 and 21 have been canceled, without prejudice. Applicants submit that the claims as currently pending are fully enabled by the specification. The application teaches that SEQ ID NO: 2, referred to as DC-SIGN, is expressed on the surface of dendritic cells and describes the physiological role of dendritic cells in the immune system and how DC-SIGN, as a cell surface protein on dendritic cells, is involved in the immune response (see e.g., page 4, line 25 to page 5, line 26). In particular, the application teaches that dendritic cells present antigen to naive T cells, initiating antigen-specific primary T cell responses (see e.g., page 4, lines 25-28). The application demonstrates that the interaction between dendritic cells and T cells is mediated by an interaction between DC-SIGN on the surface of the dendritic cells and an ICAM receptor on the surface of the T cells. The specification further teaches that compounds that bind to DC-SIGN can be used to generate, increase or promote an immune response (see e.g., page 15, lines 3-20). In particular, a compound that binds to DC-SIGN may be attached to an antigen. The compound then targets the antigen to dendritic cells through the interaction with DC-SIGN where the antigen enters the dendritic cell and is presented to cells on the surface of the dendritic cell, thereby causing an immune response against the antigen (see e.g., page 15, lines 8-10). Furthermore, the specification teaches a wide variety of compounds that bind to DC-SIGN (see e.g., page 8, line 25 to page 9, line 10), a wide variety of suitable antigens that can be complexed with the compound (see e.g., page 16, lines 16-28), methods for making such compounds (see e.g., page 9, line 26 to page 13, line 11), methods for attaching the antigen to the compound (see e.g., page 15, line 27 to page 16, line 2), and suitable pharmaceutical compositions for such compound-antigen complexes (see e.g., page 13, line 26 to page 14, line 10). Additionally, the

application provides a variety of working examples. For example, the Application demonstrates that DC-SIGN mediates the interaction between dendritic cells and ICAM-3 (see e.g., Example 1, page 19, line 13 to page 20, line 21) and that antibodies to DC-SIGN block adhesion of dendritic cells to ICAM-3 (see e.g., Example 2, page 21, lines 3-6). Figure 6D shows that the DC-SIGN-ICAM-3 interaction is important in dendritic cell induced T-cell proliferation and that anti-DC-SIGN antibodies can inhibit this T cell proliferation (see e.g., Example 6, at page 27, lines 10-16; Example 7, page 28, lines 5-14). Accordingly, the application clearly provides extensive details and working examples that enable one of ordinary skill in the art to practice the methods of the claims as currently pending.

For the reasons presented above, Applicants submit that the claims fully comply with the written description requirement under 35 U.S.C. § 112, first paragraph. Reconsideration and withdrawal of this rejection are respectfully requested.

Claim Rejections Under 35 U.S.C. §102

Claims 1, 8 and 23 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Eck et al (1999). Applicants respectfully disagree with the rejection. However, solely in an effort to expedite prosecution of the application, the claims have been amended and the amendments are believed to obviate the rejection. In particular, Applicants have amended claims 1 and 23 to recite, at least in part, a method for increasing an immune response by administering a compound-antigen complex that binds to DC-SIGN (SEQ ID NO:2). Eck et al. fails to teach or suggest a method for increasing an immune response by administering a compound-antigen complex that binds to SEQ ID NO:2. Accordingly, Eck et al. fails to anticipate claims 1, 8 and 23 as currently pending.

Claims 1, 2, 4, 6, 7, 8, and 23 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Yan et al (1999). Applicants respectfully disagree with the rejection. However, solely in an effort to expedite prosecution of the application, the claims have been amended and the amendments are believed to obviate the rejection. In particular, Applicants have amended claims 1 and 23 to recite, at least in part, a method for increasing an immune response by

administering a compound-antigen complex that binds to DC-SIGN (SEQ ID NO:2). Yan et al. fails to teach or suggest a method for increasing an immune response by administering a compound-antigen complex that binds to SEQ ID NO:2. Accordingly, Yan et al. fails to anticipate claims 1, 2, 4, 6, 7, 8, and 23 as currently pending.

A claim is anticipated only if each and every element of the claim is found in a single prior art reference. Neither Eck nor Yan teaches each and every element of claims 1, 2, 4, 6, 7, 8, and 23 in the present application. Therefore, reconsideration and withdrawal of the rejections under 35 U.S.C. §102(b) is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that the pending claims are in condition for allowance. Early and favorable reconsideration is respectfully solicited. The Examiner may address any questions raised by this submission to the undersigned at 617-951-7000. Should any further extensions of time be required, Applicants hereby petition for same and request that the extension fee and any other fee required for timely consideration of this submission be charged to **Deposit Account No. 18-1945**, under Order No. ALXN-P03-089.

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Respectfully submitted,

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